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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,789	02/04/2004	Alan Welsh Sinclair	SDK1P019/525	5233

22434 7590 03/24/2006

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EXAMINER

ELMORE, STEPHEN C

ART UNIT	PAPER NUMBER
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2185

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/772,789	Applicant(s) SINCLAIR; ALAN WELSH	
	Examiner Stephen Elmore	Art Unit 2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-15, 19, 20, 23 and 24 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 16-18, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

SEIm
STEPHEN C. ELMORE
PRIMARY EXAMINER

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/18/04, 2/9/06</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This Office action responds to the application and preliminary amendment filed February 4, 2004.
2. Claims 1-20 are presented for examination.

Drawings

3. The drawings are objected to because:
 - a. Figures 1A, 1B and 4A should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). These drawings have been described in terms of a system "that can (in the future) utilize the invention", or showing "conventional" technology, and so, they do not show the present invention, they only actually show prior art -- they need to be labeled accurately.

No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR § 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because:

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a. The title of the invention is not adequately descriptive of the claimed invention. A new title is required that is clearly indicative of the invention to which the claims are directed. See MPEP § 606.01. The title is imprecise.

b. paragraph [0001] -- copending patent application needs serial number or patent number;

c. paragraph [0009] -- "Each planes" -- is non-idiomatic English, and in "erase black" -- block is misspelled;

d. paragraph [0059] is empty.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 4-15, 19, 20, and 23-24 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Stence et al., US 6,646,948, hereafter (Stence).

Stence teaches the claimed data storage system (col. 1, lines 30-33) [claims 1, 12 and 13], method for storing [claim 14] and retrieving [claim 20] data, and computer-readable medium [claim 24], comprising:

Claim 1,

a first non-volatile storage device, element 126, col. 3, lines 46-50; a second non-volatile storage device, element 112, col. 3, lines 18-23, having a slower average access time, col. 1, lines 52-54, and a higher capacity than the first storage device, col. 1, lines 54-57, wherein the slower average access time is the average delay that is necessary before the second non-volatile storage device can begin to write data, col. 5, lines 11-17; and a storage controller, col. 3, lines 24-26, operable to direct

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a first portion of data to the first storage device and a second portion of data to the second storage device, col. 12, lines 37-41, col. 14, line 66 - col. 15, line 3;

Claim 12,

the subject matter of claim 12 differs from that of claim 1 only in respect to the activities of reading instead of writing data to the claimed storage devices, Stence also teaches a storage controller operable to retrieve a first portion of data form the first storage device and a second portion of data form the second storage device, col. 15, lines 17-28, thus meeting the limitations of claim 12;

Claim 13,

the subject matter of claim 13 differs from the subject matter of claim 1 in that the subject matter of claim 13 is not limited to non-volatile storage devices, and in that claim 13 specifies that the first portion is head data and the second portion is body data and in that claim 13 specifies using a head table; Stence teaches both head data and body data as beginning and remaining part of a file, col. 15, lines 17-19, as well as teaching head table as a master list, col. 4, lines 1-5, col. 13, lines 36-38;

Claim 14,

the subject matter features of claim 14 correspond to method activities related to the performance of these methods by the features of claim 1, except that claim 14 also claims a step of causing, prior to the completion of storing the first portion of the data fragment in the first storage device, a second storage device to be prepared to write data, Stence teaches the use of a buffer for the data write to the second storage device, col. 6, lines 33-43, and the use of a clearing algorithm to ensure that there is always adequate buffer space available for a data write, col. 6, lines 1-3 and lines 59-65, which can be considered to be an operation to prepare the second storage to write data;

Claim 20,

the subject matter of claim 20 correspond to method features corresponding to claim 12, and additionally claim 20 claims a step causing, prior to the completion of reading the first portion of the data fragment in the first storage device, a second storage device to be prepared to read a remaining portion of the data, this is taught, col. 15, lines 4-29, this is taught as the activity of reading the

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beginning part of the file while moving the read/write head to retrieve the remaining portion of the data, and Figure 14;

Claim 24,

the subject matter of claim 24 relates to a computer readable medium including at least computer program code for storing data, and to the computer readable medium containing computer program code to perform the steps of the methods corresponding to claim 14, therefore, the limitations of claim 24 are also taught by Stence since the processor 116 performs the claimed method steps by executing instructions which have been stored inherently in a computer readable medium;

Dependent Claims --

Claims 4 and 5, these limitations are taught as inherent to the practice of old and well-known garbage collection processes of the non-volatile storage device 126 (IC based memory) using conventional memory processes necessary to the devices being used in relation to programmed processors 116 for data storage and recovery of valuable memory spaces in these IC based memory devices;

Claim 6, these limitations are taught as inherent to the delay in write access to the storage 112;

Claims 7 and 8, Official notice is taken that the using of non-volatile IC based storage devices by storing the stored data in either ring buffer or cyclic buffer arrangements of logical addresses is old and well-known in the art of use of IC based memories for buffering purposes, which use is taught at col. 6 ,lines 33-43 and 59-65;

Claim 9, these limitations are taught at col. 8, line 65 - col. 9, line 3;

Claim 10, these limitations taught as elements 126 and 112;

Claim 11, the solid-state memory is flash is taught inherently as a member of the set of non-volatile memories, 126, or IC base memory, col. 1, lines 44;

Claim 15, the claimed use of a head table is taught as use of the master list which is inherently updated;

Claims 19 and 23, these limitations are taught, col. 6, lines 9-16, since the read request retrieves the entire requested data from media 112, it had inherently to have been completely stored in media 112 as a complete write entirely without any data portion having been previously written to 126.

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Allowable Subject Matter

7. Claims 2, 3, 16-18, 21 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Elmore whose telephone number is (571) 272-4436. The examiner can normally be reached on Mon-Fri from 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 19, 2006


STEPHEN C. ELMORE
PRIMARY EXAMINER